

**ABSTRACT OF THE DISCLOSURE**

A composition comprising a collagen protein and demineralized bone matrix is described wherein the composition is chemically cross-linked with a carbodiimide such as N-(3-dimethylaminopropyl)-N-ethylcarbodiimide hydrochloride (EDC). The crosslinking reaction can be conducted in the presence of N-hydroxysuccinimide (NHS). The collagen can be in a porous matrix or scaffolding. The DBM can be in the form of particles dispersed in the collagen. A method of making the composition is also described wherein a collagen slurry is cast into the desired shape, freeze dried to form a porous scaffolding and infiltrated with a solution comprising the cross-linking agent. The composition can be used as an implant for tissue (e.g., soft tissue or bone) engineering.

10